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John Burroughs,
1869,
Bird's nests.

FROM

*The Atlantic Monthly, Vol. XXIII, No. 140,
June 1869.*

BIRD'S-NESTS.

HOW alert and vigilant the birds are, even when absorbed in building their nests! In an open space in the woods I see a pair of cedar-birds collecting moss from the top of a dead tree. Following the direction in which they fly, I soon discover the nest placed in the fork of a small soft-maple, which stands amid a thick growth of wild-cherry trees and young beeches. Carefully concealing myself beneath it, without any fear that the workmen will hit me with a chip or let fall a tool, I await the return of the busy pair. Presently I hear the well-known note, and the female sweeps down and settles unsuspectingly into the half-finished structure. Hardly have her wings rested before her eye has penetrated my screen, and with a hurried movement of alarm she darts away. In a moment the male, with a tuft of wool in his beak, (for there is a sheep-pasture near,) joins her, and the two reconnoitre the premises from the surrounding bushes. With their beaks still loaded, they move around with a frightened look, and refuse to approach the nest till I have moved off and lain down behind a log. Then one of them ventures to alight upon the nest, but, still suspecting all is not right, quickly darts away again. Then they both together come, and after much peeping and spying about, and apparently much anxious consultation, cautiously proceed to work. In less than half an hour it would seem that wool enough has been brought to supply the whole family, real and prospective, with socks, if needles and fingers could be found fine enough to knit it up. In less than a week the female has begun to deposit her eggs, — four of them, in as many days, — white tinged with purple, with black spots on the larger end. After two weeks of incubation, the young are out.

Excepting the American goldfinch, this bird builds later in the spring than

any other — its nest, in our northern climate, seldom being undertaken till July. As with the goldfinch, the reason is, probably, that suitable food for the young cannot be had at an earlier period.

Like most of our common species, as the robin, sparrow, bluebird, pewee, wren, &c., this bird sometimes seeks wild, remote localities in which to rear its young; at others, takes up its abode near that of man. I knew a pair of cedar-birds, one season, to build in an apple-tree the branches of which rubbed against the house. For a day or two before the first straw was laid, I noticed the pair carefully exploring every branch of the tree, the female taking the lead, the male following her with an anxious note and look. It was evident that the wife was to have her choice this time; and, like one who thoroughly knew her mind, she was proceeding to take it. Finally the site was chosen upon a high branch, extending over one low wing of the house. Mutual congratulations and caresses followed, when both birds flew away in quest of building material. That most freely used is a sort of cotton-bearing plant, which grows in old, worn-out fields. The nest is large for the size of the bird, and very soft. It is in every respect a first-class domicile.

On another occasion, while walking or rather loafing in the woods (for I have discovered that one cannot run and read the book of nature), my attention was arrested by a dull hammering, evidently but a few rods off. I said to myself, "Some one is building a house." From what I had previously seen, I suspected the builder to be a red-headed woodpecker in the top of a dead oak stub near by. Moving cautiously in that direction, I perceived a round hole, about the size of that made by an inch-and-a-half auger, near the top of the decayed trunk, and the white chips of the workman strewing the

ground beneath. When but a few paces from the tree, my foot pressed upon a dry twig, which gave forth a very slight snap. Instantly the hammering ceased, and a scarlet head appeared at the door. Though I remained perfectly motionless, forbearing even to wink till my eyes smarted, the bird refused to go on with his work, but flew quietly off to a neighboring tree. What surprised me was, that amid his busy occupation down in the heart of the old tree, he should have been so alert and watchful as to catch the slightest sound from without.

The woodpeckers all build in about the same manner, excavating the trunk or branch of a decayed tree and depositing the eggs on the fine fragments of wood at the bottom of the cavity. Though the nest is not especially an artistic work, — requiring strength rather than skill, — yet the eggs and the young of few other birds are so completely housed from the elements, or protected from their natural enemies — the jays, crows, hawks, and owls. A tree with a natural cavity is never selected, but one which has been dead just long enough to have become soft and brittle throughout. The bird goes in horizontally for a few inches, making a hole perfectly round and smooth and adapted to his size, then turns downward, gradually enlarging the hole, as he proceeds, to the depth of ten, fifteen, twenty inches, according to the softness of the tree and the requirements of the female in laying her eggs. A few days since I climbed up to the nest of the downy woodpecker, in the decayed top of a sugar-maple. For better protection against driving rains, the hole, which was rather more than an inch in diameter, was made immediately beneath a branch which stretched out almost horizontally from the main stem. It appeared merely a deeper shadow upon the dark and mottled surface of the bark with which the branches were covered, and could not be detected by the eye until one was within a few feet of it. The young chirped vociferously as I approached the nest, thinking it was the

old one with food; but the clamor suddenly ceased as I put my hand on that part of the trunk in which they were concealed, the unusual jarring and rustling alarming them into silence. The cavity, which was about fifteen inches deep, was gourd-shaped, and was wrought out with great skill and regularity. The walls were quite smooth and clean and new.

I shall never forget the circumstance of observing a pair of yellow-bellied woodpeckers, — the most rare and secluded, and, next to the red-headed, the most beautiful species found in our woods, — breeding in an old, truncated beech in the Beaverkill Mountains, an offshoot of the Catskills. We had been travelling, three brothers of us, all day in search of a trout lake, which lay far in among the mountains, had twice lost our course in the trackless forest, and, weary and hungry, had sat down to rest upon a decayed log. The chattering of the young, and the passing to and fro of the parent birds, soon arrested my attention. The entrance to the nest was on the east side of the tree, about twenty-five feet from the ground. At intervals of scarcely a minute, the old birds, one after another, would alight upon the edge of the hole with a grub or worm in their beaks; then each in turn would make a bow or two, cast an eye quickly around, and by a single movement place itself in the neck of the passage. Here it would pause a moment, as if to determine in which expectant mouth to place the morsel, and then disappear within. In about half a minute, during which time the chattering of the young gradually subsided, the bird would again emerge, but this time bearing in its beak the ordure of one of the helpless family. Flying away very slowly with head lowered and extended, as if anxious to hold the offensive object as far from its plumage as possible, the bird dropped the unsavory morsel in the course of a few yards, and, alighting on a tree, wiped its bill on the bark and moss. This seems to be the order all day, — carrying in and carrying out. I watched the birds for an hour,

while my companions were taking their turn in exploring the lay of the land around us, and noted no variation of the programme. It would be curious to know if the young are fed and waited upon in regular order, and how, amid the darkness and the crowded state of the apartment, the matter is so neatly managed. But the ornithologists are all silent upon the subject.

This practice of the birds is not so uncommon as it might at first seem. It is indeed almost an invariable rule among all the land birds. With woodpeckers and kindred species, and with birds that burrow in the ground, as bank swallows, kingfishers, &c., it is a necessity. The accumulation of the excrement in the nest would most likely prove fatal to the young.

But even among birds which neither bore nor mine, but which build a shallow nest on the branch of a tree or upon the ground, as the robin, the finches, the buntings, &c., the ordure of the young is removed to a distance by the parent bird. When the robin is seen going away from its brood with a slow heavy flight, entirely different from its manner a moment before on approaching the nest with a cherry or worm, it is certain to be engaged in this office. One may observe the social sparrow, when feeding its young, pause a moment after the worm has been given, and hop around on the brink of the nest, observing the movements within.

The instinct of cleanliness no doubt prompts the action in all cases, though the disposition to secrecy or concealment may not be unmixed with it.

The swallows form an exception to the rule, the excrement being voided by the young over the brink of the nest. They form an exception, also, to the rule of secrecy, aiming not so much to conceal the nest as to render it inaccessible.

Other exceptions are the pigeons, hawks, and water-fowls.

But to return. Having a good chance to note the color and markings of the woodpeckers as they passed in and out at the opening of the nest, I saw

that Audubon had made a mistake in figuring or describing the female of this species with the red spot upon the head. I have seen a number of pairs of them, and in no instance have I seen the mother bird marked with red.

The male was in full plumage, and I reluctantly shot him for a specimen. Passing by the place again next day, I paused a moment to note how matters stood. I confess it was not without some compunctions that I heard the cries of the young birds, and saw the widowed mother, her cares now doubled, hastening to and fro in the solitary woods. She would occasionally pause expectantly on the trunk of a tree, and utter a loud call.

It usually happens, when the male of any species is killed during the breeding season, that the female soon procures another mate. There are, most likely, always a few unmated birds, of both sexes, within a given range, and through these the broken links may be restored. Audubon or Wilson, I forget which, tells of a pair of fish-hawks, or ospreys, that built their nest in an ancient oak. The male was so zealous in the defence of the young that it actually attacked with beak and claw a person who attempted to climb into its nest, putting his face and eyes in great jeopardy. Arming himself with a heavy club, the climber felled the gallant bird to the ground and killed him. In the course of a few days the female had procured another mate. But naturally enough the step-father showed none of the spirit and pluck in defence of the brood that had been displayed by the original parent. When danger was nigh, he was seen afar off, sailing around in placid unconcern.

It is generally known that when either the wild turkey or domestic turkey begins to lay, and afterwards to sit and rear the brood, she secludes herself from the male, who then, very sensibly, herds with others of his sex, and betakes himself to haunts of his own till male and female, old and young, meet again on common ground, late in the fall. But rob the sitting bird of her eggs,

or destroy her tender young, and she immediately sets out in quest of a male, who is no laggard when he hears her call. The same is true of ducks and other aquatic fowls. The propagating instinct is strong, and surmounts all ordinary difficulties. No doubt the widowhood I had caused in the case of the woodpeckers was of short duration, and chance brought, or the widow drummed up, some forlorn male, who was not dismayed by the prospect of having a large family of half-grown birds on his hands at the outset.

I have seen a fine cock robin paying assiduous addresses to a female bird, as late as the middle of July; and I have no doubt that his intentions were honorable. I watched the pair for half an hour. The hen, I took it, was in the market for the second time that season, but the cock, from his bright, unfaded plumage, looked like a new arrival. The hen resented every advance of the male. In vain he strutted around her and displayed his fine feathers; every now and then she would make at him in the most spiteful manner. He followed her to the ground, poured into her ear a fine half-suppressed warble, offered her a worm, flew back to the tree again with a great spread of plumage, hopped around her on the branches, chirruped, chattered, flew gallantly at an intruder, and was back in an instant at her side. No use, — she cut him short at every turn.

The *dénouement* I cannot relate, — as the artful bird, followed by her ardent suitor, soon flew away beyond my sight. It may not be rash to conclude, however, that she held out no longer than was prudent.

On the whole, there seems to be a system of Women's Rights prevailing among the birds, which, contemplated from the standpoint of the male, is quite admirable. In almost all cases of joint interest, the female bird is the most active. She determines the site of the nest, and is usually the most absorbed in its construction. Generally, she is more vigilant in caring for the

young, and manifests the most concern when danger threatens. Hour after hour I have seen the mother of a brood of blue grossbeaks pass from the nearest meadow to the tree that held her nest, with a cricket or grasshopper in her bill, while her better-dressed half was singing serenely on a distant tree, or pursuing his pleasure amid the branches.

Yet the male is most conspicuous both by his color and manners and by his song, and is to that extent a shield to the female. It is thought that the female is humbler clad for her better concealment during incubation. But this is not satisfactory, as in most cases she is relieved from time to time by the male. In the case of the domestic dove, for instance, promptly at midday the cock is found upon the nest. I should sooner say that the dull or neutral tints of the female were a provision of nature for her greater safety at all times, as her life is far more precious to the species than that of the male. The indispensable office of the male reduces itself to little more than a moment of time, while that of his mate extends over days and weeks, if not months.

In migrating northward, the males precede the females by eight or ten days; returning in the fall, the females and young precede the males by about the same time.

After the woodpeckers have abandoned their nests, or rather chambers, which they do after the first season, their cousins, the nuthatches, chickadees, and brown creepers, fall heir to them. These birds, especially the creepers and nuthatches, have many of the habits of the picidæ, but lack their powers of bill, and so are unable to excavate a nest for themselves. Their habitation, therefore, is always second-hand. But each species carries in some soft material of various kinds, or, in other words, furnishes the tenement to its liking. The chickadee arranges in the bottom of the cavity a little mat of a light felt-like substance, which looks as if it came from the hatter's, but which is probably the work of numerous

worms or caterpillars. On this soft lining the female deposits six white eggs.

I recently discovered one of these nests in a most interesting situation. The tree containing it, a variety of the wild-cherry, stood upon the brink of the bald summit of a high mountain. Gray, time-worn rocks lay piled loosely about, or overtopped the just visible by-ways of the red fox. The trees had a half-scared look, and that indescribable wildness which lurks about the tops of all remote mountains possessed the place. Standing there, I looked down upon the back of the red-tailed hawk as he flew out over the earth beneath me. Following him, my eye also took in farms and settlements and villages and other mountain ranges that grew blue in the distance.

The parent birds attracted my attention by appearing with food in their beaks, and by seeming much put out. Yet so wary were they of revealing the locality of their brood, or even of the precise tree that held them, that I lurked around over an hour without gaining a point on them. Finally a bright and curious boy who accompanied me secreted himself under a low, projecting rock close to the tree in which we supposed the nest to be, while I moved off around the mountain-side. It was not long before the youth had their secret. The tree, which was low and wide, branching, and overrun with lichens, appeared at a cursory glance to contain not one dry or decayed limb. Yet there was one a few feet long, in which, when my eyes were piloted thither, I detected a small round orifice.

As my weight began to shake the branches, the consternation of both old and young was great. The stump of a limb that held the nest was about three inches thick, and at the bottom of the tunnel was excavated quite to the bark. With my thumb I broke in the thin wall, and the young, which were full-fledged, looked out upon the world for the first time. Presently one of them, with a significant chirp, as much as to say, "It is time

we were out of this," began to climb up toward the proper entrance. Placing himself in the hole, he looked around without manifesting any surprise at the grand scene that lay spread out before him. He was taking his bearings, and determining how far he could trust the power of his untried wings to take him out of harm's way. After a moment's pause, with a loud chirrup, he launched out and made tolerable headway. The others rapidly followed. Each one, as it started upward, from a sudden impulse, contemptuously saluted the abandoned nest with its excrement.

Though generally regular in their habits and instincts, yet the birds sometimes seem as whimsical and capricious as superior beings. One is not safe, for instance, in making any absolute assertion as to their place or mode of building. Ground builders often get up into a bush, and tree builders sometimes get upon the ground or into a tussock of grass. The song sparrow, which is a ground builder, has been known to build in the knot-hole of a fence rail, and a chimney swallow once got tired of soot and smoke, and fastened its nest on a rafter in a hay barn. A friend tells me of a pair of barn swallows which, taking a fanciful turn, saddled their nest in the loop of a rope that was pendent from a peg in the peak, and liked it so well that they repeated the experiment next year. I have known the social sparrow, or "hair-bird," to build under a shed, in a tuft of hay that hung down, through the loose flooring, from the mow above. It usually contents itself with half a dozen stalks of dry grass and a few long hairs from a cow's tail, loosely arranged on the branch of an apple-tree. The rough-winged swallow builds in the wall and in old stone heaps, and I have seen the robin build in similar localities. Others have found its nest in old, abandoned wells. The house wren will build in anything that has an accessible cavity, from an old boot to a bombshell. A pair of them once persisted in building their nest in the top of a certain pump-tree, getting in through the opening above the

handle. The pump being in daily use, the nest was destroyed more than a score of times. This jealous little wretch has the wise forethought, when the box in which he builds contains two compartments, to fill up one of them, so as to avoid the risk of troublesome neighbors.

The less skilful builders sometimes depart from their usual habit, and take up with the abandoned nest of some other species. The blue jay now and then lays in an old crow's-nest or cuckoo's-nest. The crow-blackbird, seized with a fit of indolence, drops its eggs in the cavity of a decayed branch. I heard of a cuckoo that dispossessed a robin of its nest; of another, that set a blue jay adrift. Large, loose structures, like the nests of the osprey and certain of the herons, have been found with half a dozen nests of the blackbird set in the outer edges, like so many parasites, or, as Audubon says, like the retainers about the rude court of a feudal baron.

The same birds breeding in a southern climate construct far less elaborate nests than when breeding in a northern climate. Certain species of waterfowl that abandon their eggs to the sand and the sun in the warmer zones, build a nest and sit in the usual way in Labrador. In Georgia, the Baltimore oriole places its nest upon the north side of the tree; in the Middle and Eastern States, it fixes it upon the south or east side, and makes it much thicker and warmer. I have seen one from the South that had some kind of coarse reed or sedge woven into it, giving it an openwork appearance, like a basket.

Very few species use the same material uniformly. I have seen the nest of the robin quite destitute of mud. In one instance, it was composed mainly of long black horse-hairs, arranged in a circular manner, with a lining of fine yellow grass; the whole presenting quite a novel appearance. In another case, the nest was chiefly constructed of a species of rock moss.

The nest for the second brood dur-

ing the same season is often a mere make-shift. The haste of the female to deposit her eggs as the season advances seems very great, and the structure is apt to be prematurely finished. I was recently reminded of this fact by happening, about the last of July, to meet with several nests of the wood or bush sparrow in a remote blackberry field. The nests with eggs were far less elaborate and compact than the earlier nests, from which the young had flown.

Day after day, as I go to a certain piece of woods, I observe a male indigo-bird sitting on precisely the same part of a high branch, and singing in his most vivacious style. As I approach, he ceases to sing, and, flirting his tail right and left with marked emphasis, chirps sharply. In a low bush near by, I come upon the object of his solicitude — a thick, compact nest composed largely of dry leaves and fine grass, in which a plain brown bird is sitting upon four pale blue eggs.

The wonder is, that a bird will leave the apparent security of the tree-tops, to place its nest in the way of the many dangers that walk and crawl upon the ground. There, far up out of reach, sings the bird; here, not three feet from the ground, are its eggs or helpless young. The truth is, birds are the greatest enemies of birds, and it is with reference to this fact that many of the smaller species build.

Perhaps the greatest proportion of birds breed along highways. I have known the ruffed grouse to come out of a dense wood, and make its nest at the root of a tree within ten paces of the road, where, no doubt, hawks and crows, as well as skunks and foxes, would be less liable to find it out. Traversing remote mountain-roads through dense woods, I have repeatedly seen the veery, or Wilson's, thrush, sitting upon her nest, so near me that I could almost take her from it by stretching out my hand. Birds of prey show none of this confidence in man, and, when locating their nests, avoid rather than seek his haunts.

In a certain locality in the interior of New York, I know, every season, where I am sure to find a nest or two of the slate-colored snowbird. It is under the brink of a low, mossy bank, so near the highway that it could be reached from a passing vehicle with a whip. Every horse or wagon or foot passenger disturbs the sitting bird. But she waits the near approach of the sound of feet or wheels, and then darts quickly across the road, barely clearing the ground, and disappears amid the bushes on the opposite side.

In the trees that line one of the main streets and fashionable drives leading out of Washington City, and less than half a mile from the boundary, I have counted the nests of five different species at one time, and that without any very close scrutiny of the foliage, while in many acres of woodland, half a mile off, I searched in vain for a single nest. Among the five, the nest that interested me most was that of the blue grossbeak. Here this bird, which, according to Audubon's observations in Louisiana, is shy and recluse, affecting remote marshes and the borders of large ponds of stagnant water, had placed its nest in the lowest twig of the lowest branch of a large sycamore, immediately over a great thoroughfare, and so near the ground that a person standing in a cart or sitting on a horse could have reached it with his hand. The nest was composed mainly of fragments of newspaper and stalks of grass, and though so low, was remarkably well concealed by one of the peculiar clusters of twigs and leaves which characterize this tree. The nest contained young when I discovered it, and though the parent birds were much annoyed by my loitering about beneath the tree, they paid little attention to the stream of vehicles that was constantly passing. It was a wonder to me when the birds could have built it, for they are much shyer when building than at other times. No doubt they worked mostly in the morning, having the early hours all to themselves.

Another pair of blue grossbeaks built

in a graveyard within the city limits. The nest was placed in a low bush, and the male continued to sing at intervals till the young were ready to fly. The song of this bird is a rapid, intricate warble, like that of the indigo-bird, though stronger and louder. Indeed, these two birds so much resemble each other in color, form, manner, voice, and general habits that, were it not for the difference in size, — the grossbeak being nearly as large again as the Indigo-bird, — it would be a hard matter to tell them apart. The females of both species are clad in the same reddish-brown suits. So are the young the first season.

Of course in the deep, primitive woods also are nests; but how rarely we find them! The simple art of the bird consists in choosing common, neutral-tinted material, as moss, dry leaves, twigs, and various odds and ends, and placing the structure on a convenient branch, where it blends in color with its surroundings; but how consummate is this art, and how skillfully is the nest concealed! We occasionally light upon it, but who, unaided by the movements of the bird, could find it out? During the present season I went to the woods nearly every day for a fortnight, without making any discoveries of this kind; till one day, paying them a farewell visit, I chanced to come upon several nests. A black and white creeping warbler suddenly became much alarmed as I approached a crumbling old stump in a dense part of the forest. He alighted upon it, chirped sharply, ran up and down its sides, and finally left it with much reluctance. The nest, which contained three young birds nearly fledged, was placed upon the ground at the foot of the stump, and in such a position that the color of the young harmonized perfectly with the bits of bark, sticks, &c., lying about. My eye rested upon them for the second time before I made them out. They hugged the nest very closely, but, as I put down my hand, they all scampered off with loud cries for help, which caused the parent birds to place themselves almost within my reach. The nest was

merely a little dry grass arranged in a thick bed of dry leaves.

This was amid a thick undergrowth. Moving on into a passage of large state-ly hemlocks, with only here and there a small beech or maple rising up into the perennial twilight, I paused to make out a note which was entirely new to me. It is still in my ear. Though unmistakably a bird note, it yet suggested the bleating of a tiny lambkin. Presently the birds appeared,—a pair of the solitary vireo. They came flitting from point to point, alighting only for a moment at a time, the male silent, but the female uttering this strange, tender note. It was a rendering into some new sylvan dialect of the human sentiment of maidenly love. It was really pathetic in its sweetness and childlike confidence and joy. I soon discovered that the pair were building a nest upon a low branch a few yards from me. The male flew cautiously to the spot, and adjusted something, and the twain moved on, the female calling to her mate at intervals, *love-e, love-e*, with a cadence and tenderness in the tone that rang in the ear long afterward. The nest was suspended to the fork of a small branch, as is usual with the vireos, plentifully lined with lichens, and bound and rebound with masses of coarse spider-webs. There was no attempt at concealment except in the neutral tints, which made it look like a natural growth of the dim, gray woods.

Continuing my random walk, I next paused in a low part of the woods, where the larger trees began to give place to a thick second growth that covered an old bark-peeling. I was standing by a large maple, when a small bird darted quickly away from it, as if it might have come out of a hole near its base. As the bird paused a few yards from me, and began to chirp uneasily, my curiosity was at once excited. When I saw it was the female mourning ground warbler, and remembered that the nest of this bird had not yet been seen by any naturalist,—that not even Dr. Brewer had ever seen the eggs,—I felt that here was

something worth looking for. So I carefully began the search, exploring inch by inch the ground, the base and roots of the tree, and the various shrubby growths about it, till, finding nothing, and fearing I might really put my foot in it, I bethought me to withdraw to a distance and after some delay return again, and, thus forewarned, note the exact point from which the bird flew. This I did, and, returning, had little difficulty in discovering the nest. It was placed but a few feet from the maple-tree, in a bunch of ferns, and about six inches from the ground. It was quite a massive nest, composed entirely of the stalks and leaves of dry grass, with an inner lining of fine, dark brown roots. The eggs, three in number, were of light flesh-color, uniformly specked with fine brown specks. The cavity of the nest was so deep that the back of the sitting bird sank below the edge.

In the top of a tall tree, a short distance farther on, I saw the nest of the red-tailed hawk,—a large mass of twigs and dry sticks. The young had flown, but still lingered in the vicinity, and, as I approached, the mother bird flew about over me, squealing in a very angry, savage manner. Tufts of the hair and other indigestible material of the common meadow mouse lay around on the ground beneath the nest.

As I was about leaving the woods my hat almost brushed the nest of the red-eyed vireo, which hung basket-like on the end of a low, drooping branch of the beech. I should never have seen it had the bird kept her place. It contained three eggs of the bird's own, and one of the cow bunting. The strange egg was only just perceptibly larger than the others, yet three days after, when I looked into the nest again and found all but one egg hatched, the young interloper was at least four times as large as either of the others, and with such a superabundance of bowels as to almost smother his bedfellows beneath them. That the intruder should fare the same as the rightful occupants, and thrive with them, was more than

ordinary potluck; but that it alone should thrive, devouring, as it were, all the rest, is one of those freaks of Nature in which she would seem to discourage the homely virtues of prudence and honesty. Weeds and parasites have the odds greatly against them, yet they wage a very successful war nevertheless.

The woods hold not such another gem as the nest of the humming-bird. The finding of one is an event to date from. It is the next best thing to finding an eagle's nest. I have met with but two, both by chance. One was placed on the horizontal branch of a chestnut-tree, with a solitary green leaf, forming a complete canopy, about an inch and a half above it. The repeated spiteful dartings of the bird past my ears, as I stood under the tree, caused me to suspect that I was intruding upon some one's privacy; and following it with my eye, I soon saw the nest, which was in process of construction. Adopting my usual tactics of secreting myself near by, I had the satisfaction of seeing the tiny artist at work. It was the female unassisted by her mate. At intervals of two or three minutes, she would appear with a small tuft of some cottony substance in her beak, dart a few times through and around the tree, and alighting quickly in the nest, arrange the material she had brought, using her breast as the model.

The other nest I discovered in a dense forest on the side of a mountain. The sitting bird was disturbed as I passed beneath her. The whirring of her wings arrested my attention, when, after a short pause, I had the good luck to see, through an opening in the leaves, the bird return to her nest, which appeared like a mere wart or excrescence on a small branch. The humming-bird, unlike all others, does not alight upon the nest, but flies into it. She enters it as quick as a flash, but as light as any feather. Two eggs are the complement. They are perfectly white, and so frail that only a woman's fingers may touch them. Incubation lasts about ten days. In a week the young have flown.

The only nest like the humming-bird's, and comparable to it in neatness and symmetry, is that of the blue-gray gnatcatcher. This is often saddled upon the limb in the same manner, though it is generally more or less pendent; it is deep and soft, composed mostly of some vegetable down covered all over with delicate tree-lichens, and, except that it is much larger, appears almost identical with the nest of the humming-bird.

But the nest of nests, the ideal nest, after we have left the deep woods, is unquestionably that of the Baltimore oriole. It is the only perfectly pensile nest we have. The nest of the orchard oriole is indeed mainly so, but this bird generally builds lower and shallower, more after the manner of the vireos.

The Baltimore oriole loves to attach its nest to the swaying branches of the tallest elms, making no attempt at concealment, but satisfied if the position be high and the branch pendent. This nest would seem to cost more time and skill than any other bird structure. A peculiar flax-like substance seems to be always sought after and always found. The nest when completed assumes the form of a large, suspended, gourd-shaped drop. The walls are thin but firm, and proof against the most driving rain. The mouth is hemmed or overhanded with horse-hair, and the sides are usually sewed through and through with the same.

Not particular as to the matter of secrecy, the bird is not particular as to material, so that it be of the nature of strings or threads. A lady friend once told me that, while working by an open window, one of these birds approached during her momentary absence, and, seizing a skein of some kind of thread or yarn, made off with it to its half-finished nest. But the perverse yarn caught fast in the branches, and, in the bird's efforts to extricate it, got hopelessly tangled. She tugged away at it all day, but was finally obliged to content herself with a few detached portions. The fluttering strings were

an eyesore to her ever after, and, passing and repassing, she would pause to give them a spiteful jerk, as much as to say, "There is that confounded yarn that gave me so much trouble."

From Pennsylvania, Vincent Barnard (to whom I am indebted for other curious facts) sent me this interesting story of an oriole. He says a friend of his, curious in such things, on observing the bird beginning to build, hung out near the prospective nest skeins of many-colored zephyr yarn, which the eager artist readily appropriated. He managed it so that the bird used nearly equal quantities of various high, bright colors. The nest was made unusually deep and capacious, and it may be questioned if such a thing of beauty was ever before woven by the cunning of a bird.

Nuttall, by far the most genial of American ornithologists, relates the following:—

"A female (oriole), which I observed attentively, carried off to her nest a piece of lamp-wick ten or twelve feet long. This long string and many other shorter ones were left hanging out for about a week before both the ends were wattled into the sides of the nest. Some other little birds, making use of similar materials, at times twitched these flowing ends, and generally brought out the busy Baltimore from her occupation in great anger.

"I may perhaps claim indulgence for adding a little more of the biography of this particular bird, as a representative also of the instincts of her race. She completed the nest in about a week's time, without any aid from her mate; who indeed appeared but seldom in her company, and was now become nearly silent. For fibrous materials she broke, hackled, and gathered the flax of the *asclepias* and *hibiscus* stalks, tearing off long strings and flying with them to the scene of her labors. She appeared very eager and hasty in her pursuits, and collected her materials without fear or restraint, while three men were working in the neighboring walks and many persons visiting the

garden. Her courage and perseverance were indeed truly admirable. If watched too narrowly, she saluted with her usual scolding, *tshrr, tshrr, tshrr*, seeing no reason, probably, why she should be interrupted in her indispensable occupation.

"Though the males were now comparatively silent on the arrival of their busy mates, I could not help observing this female and a second, continually vociferating, apparently in strife. At last she was observed to attack this *second* female very fiercely, who slyly intruded herself at times into the same tree where she was building. These contests were angry and often repeated. To account for this animosity, I now recollected that *two* fine males had been killed in our vicinity; and I therefore concluded the intruder to be left without a mate; yet she had gained the affections of the consort of the busy female, and thus the cause of their jealous quarrel became apparent. Having obtained the confidence of her faithless paramour, the *second* female began preparing to weave a nest in an adjoining elm, by tying together certain pendent twigs as a foundation. The male now associated chiefly with the intruder, whom he even assisted in her labor, yet did not wholly forget his first partner, who called on him one evening in a low, affectionate tone, which was answered in the same strain. While they were thus engaged in friendly whispers, suddenly appeared the rival, and a violent *rencontre* ensued, so that one of the females appeared to be greatly agitated, and fluttered with spreading wings as if considerably hurt. The male, though prudently neutral in the contest, showed his culpable partiality by flying off with his paramour, and for the rest of the evening left the tree to his pugnacious consort. Cares of another kind, more imperious and tender, at length reconciled, or at least terminated these disputes with the jealous females; and by the aid of the neighboring bachelors, who are never wanting among these and other birds, peace was at length completely restored, by

the restitution of the quiet and happy condition of monogamy."

Let me not forget to mention the nest under the mountain ledge, the nest of the common pewee, — a modest mossy structure, with four pearl-white eggs, — looking out upon some wild scene and overhung by beetling crags. After all has been said about the elaborate, high-hung structures, few nests perhaps awaken more pleasant emotions in the mind of the beholder than this of the pewee, — the gray, silent rocks, with caverns and dens where the fox and the wolf lurk, and just out of their reach, in a little niche, as if it grew there, the mossy tenement!

Nearly every high, projecting rock in my range has one of these nests. Following a trout stream up a wild mountain gorge, not long since, I counted five in the distance of a mile, all within easy reach, but safe from the minks and the skunks and well housed from the storms. In my native town I know a pine and oak clad hill, round-topped, with a bold, precipitous front extending half-way around it. Near the top, and along this front or side, there crops out a ledge of rocks unusually high and cavernous. One immense layer projects many feet, allowing a person, or many persons, standing upright, to move freely beneath it. There is a delicious spring there, and plenty of wild, cool air. The floor is of loose stone, now trod by sheep and foxes, once by the Indian and the wolf. How I have delighted, from boyhood, to spend a summer day there, or take refuge there from a sudden shower! Always the freshness and coolness, and always the delicate mossy nest of the Phœbe-bird! The bird keeps her place till you are within a few feet of her, when she flits to a near branch, and, with many oscillations of her tail, observes you anxiously. Since the country has become settled this pewee has fallen into the strange practice of occasionally placing its nest under a bridge, hay-shed, or other artificial structure, where it is subject to all kinds of interruptions and annoyances. When placed thus, the nest is larger

and coarser. I know a hay-loft beneath which a pair has regularly placed its nest for several successive seasons. Arranged along on a single pole, which sags down a few inches from the flooring it was intended to help support, are three of these structures, marking the number of years the birds have nested there. The foundation is of mud with a superstructure of moss, elaborately lined with hair and feathers. Nothing can be more perfect and exquisite than the interior of one of these nests, yet a new one is built every season. Three broods, however, are frequently reared in it.

The pewees, as a class, are the best architects we have. The king-bird builds a nest altogether admirable, using various soft cotton and woollen substances; and sparing neither time nor material to make it substantial and warm. The green-crested pewee builds its nest in many instances wholly of the blossoms of the white-oak. The wood pewee builds a neat, compact, socket-shaped nest of moss and lichens on a horizontal branch. There is never a loose end or shred about it. The sitting bird is largely visible above the rim. She moves her head freely about and seems entirely at her ease, — a circumstance which I have never observed in any other species. The nest of the great-crested flycatcher is seldom free from snake skins, three or four being sometimes woven into it.

About the thinnest, shallowest nest, for its situation, that can be found is that of the turtle dove. A few sticks and straws are carelessly thrown together, hardly sufficient to prevent the eggs from falling through or rolling off. The nest of the passenger pigeon is equally hasty and insufficient, and the squabs often fall to the ground and perish. The other extreme among our common birds is furnished by the ferruginous thrush, which collects together a mass of material that would fill a half-bushel measure; or by the fish-hawk, which adds to and repairs its nest year after year, till the whole would make a cart-load.

The rarest of all nests is that of the

eagle, because the eagle is the rarest of all birds. Indeed so seldom is the eagle seen that its presence always seems accidental. It appears as if merely pausing on the way, while bound for some distant, unknown region. One September, while a youth, I saw the ring-tailed eagle, an immense, dusky bird, the sight of which filled me with awe. It lingered about the hills for two days. Some young cattle, a two year old colt, and half a dozen sheep were at pasture on a high ridge that led up to the mountain, and in plain view of the house. On the second day this dusky monarch was seen flying about above them. Presently he began to hover over them, after the manner of a hawk watching for mice. He then, with extended legs let himself slowly down upon them, actually grappling the backs of the young cattle, and frightening the creatures so that they rushed about the field in great consternation; and finally, as he grew bolder and more frequent in his descents, the whole herd broke over the fence and came tearing down to the house "like mad." It did not seem to be an assault with intent to kill, but was perhaps a stratagem resorted to in order to separate the herd and expose the lambs, which hugged the cattle very closely. When he occasionally alighted upon the oaks that stood near, the branch could be seen to sway and bend beneath him. Finally, as a rifleman started out in pursuit of him, he launched into the air, set his wings, and sailed away southward. A few years afterward, in January, another eagle passed through the same locality, alighting in a field near some dead animal, but tarried briefly.

So much by way of identification. The bird is common to the northern parts of both hemispheres, and places its eyrie on high precipitous rocks. A pair built on an inaccessible shelf of rock along the Hudson for eight successive years. A squad of Revolutionary soldiers, also, found a nest along this river, and had an adventure with the bird that came near costing one of their

number his life. His comrades let him down by a rope to secure the eggs or young, when he was attacked by the female eagle with such fury that he was obliged to defend himself with his knife. In doing so, by a misstroke, he nearly severed the rope that held him, and was drawn up by a single strand from his perilous position. Audubon, from whom this anecdote is taken, figures and describes this bird as the golden eagle, though I have little doubt that Wilson was right, and that the golden eagle is a distinct species.

The sea eagle, also, builds on high rocks, according to Audubon, though Wilson describes the nest of one which he saw near Great Egg Harbor, in the top of a large yellow pine. It was a vast pile of sticks, sods, sedge, grass, reeds, &c., &c., five or six feet high by four broad, and with little or no concavity. It had been used for many years, and he was told that the eagles made it a sort of home or lodging-place in all seasons. This agrees with the description which Audubon gives of the nest of the bald eagle. There is evidently a little confusion on both sides.

The eagle, in all cases, uses one nest, with more or less repair, for several years. Many of our common birds do the same. The birds may be divided, with respect to this and kindred points, into five general classes. First, those that repair or appropriate the last year's nest, as the wren, swallow, bluebird, great-crested flycatcher, owls, eagles, fish-hawk, and a few others. Secondly, those that build anew each season, though frequently rearing more than one brood in the same nest. Of these the phoebe-bird is a well-known example. Thirdly, those that build a new nest for each brood, which include by far the greatest number of species. Fourthly, a limited number that make no nest of their own, but appropriate the abandoned nests of other birds. Finally, those who use no nest at all, but deposit their eggs in the sand, which is the case with a large number of aquatic fowls. Thus the

common gull breeds in vast numbers on the sand bars or sand islands off the south coast of Long Island. A little dent is made in the sand, the eggs are dropped and the old birds go their way. In due time the eggs are hatched by the warmth of the sun, and the little crea-

tures shift for themselves. In July countless numbers of them, of different ages and sizes, swarm upon these sandy wastes. As the waves roll out, they rush down the beach, picking up a kind of sea gluten, and then hasten back to avoid the next breaker.

BUDDHISM; OR, THE PROTESTANTISM OF THE EAST.

ON first becoming acquainted with the mighty and ancient religion of Buddha, one may be tempted to deny the correctness of this title, "*The Protestantism of the East.*" One might say, "Why not rather the *Romanism of the East?*" For so numerous are the resemblances between the customs of this system and those of the Romish Church, that the first Catholic missionaries who encountered the priests of Buddha were confounded, and thought that Satan had been mocking their sacred rites. Father Bury, a Portuguese missionary,* when he beheld the Chinese bonzes tonsured, using rosaries, praying in an unknown tongue, and kneeling before images, exclaimed in astonishment: "There is not a piece of dress, not a sacerdotal function, not a ceremony of the court of Rome, which the Devil has not copied in this country." Mr. Davis (*Transactions of the Royal Asiatic Society*, II. 491) speaks of "the celibacy of the Buddhist clergy, and the monastic life of the societies of both sexes; to which might be added their strings of beads, their manner of chanting prayers, their incense, and their candles." Mr. Medhurst (*China*, London, 1857) mentions the image of a virgin, called the "queen of heaven," having an infant in her arms, and holding a cross. Confession of sins is regularly practised. Father Huc, in his *Recollections of a Journey in Tartary, Thibet, and China*, (Hazlitt's trans-

lation,) says: "The cross, the mitre, the dalmatica, the cope, which the Grand Lamas wear on their journeys, or when they are performing some ceremony out of the temple,—the service with double choirs, the psalmody, the exorcisms, the censer suspended from five chains, and which you can open or close at pleasure,—the benedictions given by the Lamas by extending the right hand over the heads of the faithful,—the chaplet, ecclesiastical celibacy, religious retirement, the worship of the saints, the fasts, the processions, the litanies, the holy water,—all these are analogies between the Buddhists and ourselves." And in Thibet there is also a Dalai Lama, who is a sort of Buddhist pope. Such numerous and striking analogies are difficult to explain. After the simple theory "*que le diable y était pour beaucoup*" was abandoned, the next opinion held by the Jesuit missionaries was that the Buddhists had copied these customs from Nestorian missionaries, who are known to have penetrated early even as far as China. But a serious objection to this theory is that Buddhism is at least five hundred years older than Christianity, and that many of the most striking resemblances belong to its earliest period. Thus Wilson (*Hindu Drama*) has translated plays written before the Christian era, in which Buddhist monks appear as mendicants. The worship of relics is quite as ancient. Fergusson* describes totes, or shrines

* Kesson, "*The Cross and the Dragon*," (London 1854,) quoted by Hardwicke.

* *Illustrated Handbook of Architecture*, p. 67.

for relics, of very great antiquity, existing in India, Ceylon, Birmah, and Java. Many of them belong to the age of Asoka, the great Buddhist emperor, who ruled all India, B. C. 250, and in whose reign Buddhism became the religion of the state, and held its third Œcumenical Council.

The ancient Buddhist architecture is very singular, and often very beautiful. It consists of topes, rock-cut temples, and monasteries. Some of the topes are monolithic columns, more than forty feet high, with ornamented capitals. Some are immense domes of brick and stone, containing sacred relics. The tooth of Buddha was once preserved in a magnificent shrine in India but was conveyed to Ceylon, A. D. 311, where it still remains an object of universal reverence. It is a piece of ivory or bone, two inches long, and is kept in six cases, the largest of which, of solid silver, is five feet high. The other cases are inlaid with rubies and precious stones.* Besides this, Ceylon possesses the "left collar-bone relic," contained in a bell-shaped tope, fifty feet high, and the thorax bone, which was placed in a tope built by a Hindoo raja, B. C. 250, around which two others were subsequently erected, the last being eighty cubits high. The Sanchi tope, the finest in India,† is a solid dome of stone, one hundred and six feet in diameter and forty-two feet high, with a basement and terrace, having a colonnade, now fallen, of sixty pillars, with richly carved stone railing and gateway.

The rock-cut temples of the Buddhists are very ancient, and are numerous in India. Mr. Fergusson, who has made a special personal study of these monuments, believes that more than nine hundred still remain, most of them within the Bombay presidency. Of these, many date back two centuries before our era. In form they singularly resemble the earliest Roman Catholic churches. Excavated out of

* Hardy, *Eastern Monachism*, p. 224. Fergusson, p. 9.

† Fergusson, p. 10. Cunningham, *Bhilsa Topes of India*.

the solid rock, they have a nave and side aisles, terminating in an apse or semi-dome, round which the aisle is carried. One at Karli, built in this manner, is one hundred and twenty-six feet long and forty-five feet wide, with fifteen richly carved columns on each side, separating the nave from the aisles. The façade of this temple is also richly ornamented, and has a great open window for lighting the interior, beneath an elegant gallery or rood-loft.

The Buddhist rock-cut monasteries in India are also numerous, though long since deserted. Between seven and eight hundred are known to exist, most of them having been excavated between B. C. 200 and A. D. 500. Buddhist monks, then as now, took the same three vows of celibacy, poverty, and obedience, which are taken by the members of all the Catholic orders. In addition to this, *all* the Buddhist priests are mendicants. They shave their heads, wear a friar's robe tied round the waist with a rope, and beg from house to house, carrying their wooden bowl in which to receive boiled rice. The old monasteries of India contain chapels and cells for the monks. The largest, however, had accommodation for only thirty or forty; while at the present time a single monastery in Thibet, visited by MM. Huc and Gabet (the Lamasery of Kounboun), is occupied by four thousand lamas. Still, the arrangement of these monasteries shows clearly that the monkish system of the Buddhists is far too ancient to have been copied from the Christians.

Is, then, the reverse true? Did the Catholic Christians derive their monastic institutions, their bells, their rosary, their tonsure, their incense, their mitre and cope, their worship of relics, their custom of confession, &c., from the Buddhists? Such is the opinion of Mr. Prinsep (Thibet, Tartary, and Mongolia, 1852) and of Lassen (*Indische Alterthumskunde*). But, in reply to this view, Mr. Hardwicke objects that we do not find in history any trace of such an influence. Possibly, therefore, the resemblances may be the result of



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